

We claim:

1. A photosensitive flexographic printing element for the
5 production of flexographic printing plates for digital
imaging by means of lasers, comprising at least
- a dimensionally stable support,
 - 10 • at least one photopolymerizable layer, at least
comprising an elastomeric binder, a
polymerizable compound and a photoinitiator or
photoinitiator system,
 - 15 • at least two laser-ablatable layers A and B,
each comprising at least one binder and also an
IR absorber for laser radiation, and
 - optionally a removable, flexible protective film
- 20 wherein the at least one binder of layer A is an elastomeric
binder and the at least one binder of layer B is a
self-decomposing binder, and the optical density of the
entire layer sequence of IR-ablative layers in the actinic
25 spectral region is at least 2.5.
2. A photosensitive flexographic printing element as claimed in
claim 1, wherein the self-decomposing binder of layer B
contains nitro or nitrate ester groups.
- 30 3. A photosensitive flexographic printing element as claimed in
claim 2, wherein the binder containing the nitro and/or
nitrate ester groups is a cellulose or cellulose ether
nitrate ester.
- 35 4. A photosensitive flexographic printing element as claimed in
~~one of claims 1 to 3~~ ^{claim 1}, wherein the elastomeric binder is a
binder comprising diene units.
- 40 5. A photosensitive flexographic printing element as claimed in
~~one of claims 1 to 4~~ ^{claim 2}, wherein the IR absorber is carbon
black.
- 45 6. A photosensitive flexographic printing element as claimed in
~~one of claims 1 to 5~~ ^{claim 3}, wherein the flexographic printing
element has further IR-ablative layers.

20

7. A process for the production of a flexographic printing plate in which the starting material employed is a photosensitive flexographic printing element as claimed in ~~one of claims 1~~ ^{claim 7} comprising the following steps:

5

(a) removal of the removable, flexible protective film, if present,

10

(b) writing of a mask into the layer system comprising IR-ablative layers by means of an IR laser,

(c) full area exposure of the photosensitive element to actinic light through the mask formed in step (b),

15

(d) treatment of the intermediate formed in (c) with at least one developer solution, during which the residues of the IR-ablative layers which have not been removed in step (b) are removed and the exposed photopolymerizable layer is developed.

20

8. A process as claimed in claim 7, wherein step (b) is carried out using a laser apparatus having a rotating drum, and the flexographic printing element is mounted on this drum for ablation.

25

30

35

40

45